

ABSTRACT OF THE DISCLOSURE

An integral vertical cavity surface emitting laser (VCSEL) and power monitor assembly. The assembly is beneficially fabricated by anisotropically etching a silicon substrate having substantially flat top and bottom surfaces to form a cavity defined by an inwardly sloping wall that extends through the silicon substrate, beneficially to a membrane. A photodetector (light sensor) is formed adjacent the cavity (such as on a membrane), and a VCSEL is attached to the silicon substrate such that light from the VCSEL irradiates the photodetector. Beneficially, the photodetector is a metal-semiconductor-metal photodetector. An optical element (a lens) and the end of an optical fiber are beneficially located in the cavity. The optical element couples light that passes through the photodetector into the optical fiber.

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